

System Requirements and Performance (Dollars are in millions except as noted.)								
California North/South	90	110	125F	125E	150F	150E	New HSR	Maglev
Physical, production, and traffic factors (traffic data is for the year 2020)								
Route-miles	597	594	546	546	546	546	545	527
Trip-time, hours, Los Angeles-San Francisco	8.1	6.4	5.7	5.3	5.1	4.8	3.2	2.1
Average train speed (mph)	65	80	81	86	89	95	136	218
Average fare per passenger-mile (dollars)	0.166	0.157	0.169	0.166	0.164	0.161	0.162	0.194
Trains per day in each direction	29	31	39	44	44	53	92	91
Passengers, Millions of Trips (2020)	6.3	7.9	9.6	10.3	10.7	11.6	15.6	18.6
Passenger-Miles, Millions (2020)	1,160	1,716	1,881	2,116	2,252	2,581	4,742	5,888
Average trip length (miles)	184	218	195	205	211	223	303	316
Average trip length as % of route length	31%	37%	36%	38%	39%	41%	56%	60%
HSGT traffic density per route-mile (millions of passenger-miles per route-mile)	1.9	2.9	3.4	3.9	4.1	4.7	8.7	11.2
Percent of air traffic diverted	2.1%	4.6%	4.6%	5.8%	6.7%	8.6%	27.4%	36.9%
Percent of intercity auto traffic diverted	2.8%	4.1%	3.6%	3.9%	4.0%	4.4%	6.3%	6.7%
Percent of HSGT traffic by source:								
Diverted from air	16%	23%	17%	19%	21%	24%	51%	56%
Diverted from auto	24%	27%	36%	36%	35%	35%	19%	17%
Diverted from conventional rail	43%	35%	31%	29%	28%	26%	17%	15%
Diverted from bus	9%	8%	8%	7%	7%	7%	4%	3%
Induced	8%	8%	8%	8%	8%	8%	9%	9%
Operating efficiency factors, 2020								
Train-miles, millions	12.7	13.5	15.2	17.0	17.3	20.1	33.1	32.4
Passenger-miles per train mile	92	127	124	125	130	128	143	182
Seat-miles, millions	3,343	3,559	4,007	4,480	4,568	5,317	9,387	10,520
Load factor	35%	48%	47%	47%	49%	49%	51%	56%
Gross ton-miles, millions	4,584	4,664	4,947	5,362	5,468	6,163	12,957	5,826
Passenger-miles per gross ton-mile	0.25	0.37	0.38	0.39	0.41	0.42	0.37	1.01
Train-hours, millions	0.20	0.17	0.19	0.20	0.20	0.21	0.24	0.15
Passenger-miles per train hour	5,947	10,207	10,070	10,749	11,543	12,155	19,514	39,571
Operating ratio	79%	62%	61%	64%	57%	59%	51%	34%
Operating results for 2020								
Revenues:								
Passenger transportation revenue	\$192	\$269	\$317	\$351	\$370	\$416	\$770	\$1,143
Income from ancillary activities	\$8	\$11	\$16	\$16	\$17	\$18	\$21	\$24
System revenues	\$200	\$280	\$333	\$367	\$387	\$434	\$791	\$1,167
<i>Percent of system revenues from ancillary activities</i>	4%	4%	5%	4%	4%	4%	3%	2%
Operating and maintenance expenses:								
Maintenance of way	\$7	\$8	\$12	\$24	\$9	\$18	\$41	\$34
Maintenance of equipment	\$22	\$22	\$25	\$24	\$29	\$29	\$65	\$38
Transportation	\$43	\$43	\$49	\$59	\$53	\$67	\$98	\$118
Passenger traffic and services	\$42	\$48	\$57	\$61	\$62	\$68	\$94	\$109
General and administrative	\$37	\$46	\$51	\$55	\$58	\$64	\$96	\$90
Total O&M expense	\$151	\$168	\$194	\$223	\$211	\$246	\$394	\$389
<i>Per passenger-mile (dollars):</i>								
Maintenance of way	\$0.006	\$0.005	\$0.006	\$0.011	\$0.004	\$0.007	\$0.009	\$0.006
Maintenance of equipment	\$0.019	\$0.013	\$0.014	\$0.012	\$0.013	\$0.011	\$0.014	\$0.006
Transportation	\$0.037	\$0.025	\$0.026	\$0.028	\$0.024	\$0.026	\$0.021	\$0.020
Passenger traffic and services	\$0.036	\$0.028	\$0.030	\$0.029	\$0.028	\$0.026	\$0.020	\$0.018
General and administrative	\$0.032	\$0.027	\$0.027	\$0.026	\$0.026	\$0.025	\$0.020	\$0.015
Total O&M expense	\$0.130	\$0.098	\$0.103	\$0.105	\$0.094	\$0.095	\$0.083	\$0.066
Operating surplus	\$49	\$112	\$139	\$144	\$175	\$188	\$397	\$778
<i>Operating surplus per passenger-mile (dollars)</i>	\$0.042	\$0.065	\$0.074	\$0.068	\$0.078	\$0.073	\$0.084	\$0.132
Year showing first operating surplus	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000	Year 2000

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Life-Cycle Measures (All amounts are present values, as of the year 2000, of cash inflows/outflows between 2000 and 2040.)								
Revenues:								
Passenger Transportation Revenues	\$1,520	\$2,122	\$2,506	\$2,773	\$2,918	\$3,286	\$6,045	\$8,975
Income from Ancillary Activities	\$61	\$89	\$121	\$128	\$134	\$143	\$163	\$187
System Revenues	\$1,582	\$2,210	\$2,627	\$2,902	\$3,051	\$3,429	\$6,208	\$9,162
Less: Total O&M expenses	\$1,222	\$1,365	\$1,611	\$1,854	\$1,724	\$2,034	\$3,318	\$3,348
Operating surplus	\$360	\$846	\$1,017	\$1,048	\$1,327	\$1,394	\$2,890	\$5,814
Less: Continuing investments	\$84	\$132	\$146	\$184	\$176	\$162	\$401	\$230
Surplus after continuing investments	\$276	\$714	\$870	\$864	\$1,151	\$1,232	\$2,489	\$5,584
Initial investment:								
Initial vehicle investment	\$372	\$339	\$466	\$410	\$438	\$494	\$1,043	\$995
Initial infrastructure investment	\$931	\$2,561	\$7,445	\$8,517	\$7,564	\$8,684	\$14,724	\$22,406
Initial investment for ancillary activities	\$11	\$14	\$20	\$22	\$22	\$24	\$25	\$28
Initial investment, Total	\$1,314	\$2,914	\$7,931	\$8,948	\$8,024	\$9,203	\$15,792	\$23,430
Percent of total initial investment pertaining to--								
Vehicles	28%	12%	6%	5%	5%	5%	7%	4%
Infrastructure	71%	88%	94%	95%	94%	94%	93%	96%
Ancillary activities	1%	0%	0%	0%	0%	0%	0%	0%
Total initial investment per route-mile	\$2.2	\$4.9	\$14.5	\$16.4	\$14.7	\$16.9	\$29.0	\$44.5
Portion of initial investment that is <u>not</u> covered by surplus after continuing investments	\$1,038	\$2,200	\$7,060	\$8,084	\$6,873	\$7,971	\$13,303	\$17,846
Percentage of initial investment covered by surplus after continuing investments	21%	24%	11%	10%	14%	13%	16%	24%
Comparison of Benefits and Costs; Assessment of Partnership Potential								
Surplus after continuing investments	\$276	\$714	\$870	\$864	\$1,151	\$1,232	\$2,489	\$5,584
Total benefits:								
Benefits to HSGT users:								
System revenues	\$1,582	\$2,210	\$2,627	\$2,902	\$3,051	\$3,429	\$6,208	\$9,162
Users' consumer surplus	\$2,153	\$3,055	\$3,374	\$3,745	\$3,913	\$4,396	\$7,688	\$10,324
Total benefits to HSGT users	\$3,735	\$5,265	\$6,001	\$6,647	\$6,964	\$7,824	\$13,896	\$19,486
Benefits to the public at large:								
Airport congestion delay savings								
Operation delays	\$514	\$782	\$722	\$828	\$895	\$1,048	\$2,272	\$2,747
Passenger delays	\$963	\$1,478	\$1,358	\$1,563	\$1,693	\$1,988	\$4,343	\$5,239
Total airport congestion delay savings	\$1,477	\$2,261	\$2,080	\$2,390	\$2,588	\$3,036	\$6,614	\$7,986
Highway delay savings	\$738	\$1,080	\$1,608	\$1,773	\$1,807	\$1,985	\$2,015	\$2,222
Emission savings	(\$102)	\$51	\$92	\$366	(\$51)	\$444	\$656	\$736
Total benefits to the public at large	\$2,113	\$3,392	\$3,780	\$4,530	\$4,343	\$5,464	\$9,285	\$10,943
Total benefits	\$5,848	\$8,657	\$9,781	\$11,176	\$11,307	\$13,288	\$23,181	\$30,429
Total costs:								
Initial investment	\$1,314	\$2,914	\$7,931	\$8,948	\$8,024	\$9,203	\$15,792	\$23,430
O&M expense	\$1,222	\$1,365	\$1,611	\$1,854	\$1,724	\$2,034	\$3,318	\$3,348
Continuing investments	\$84	\$132	\$146	\$184	\$176	\$162	\$401	\$230
Total costs	\$2,619	\$4,410	\$9,688	\$10,985	\$9,925	\$11,400	\$19,511	\$27,007
Incidence of total costs:								
Costs borne by users	\$1,582	\$2,210	\$2,627	\$2,902	\$3,051	\$3,429	\$6,208	\$9,162
Publicly-borne costs	\$1,038	\$2,200	\$7,060	\$8,084	\$6,873	\$7,971	\$13,303	\$17,846

California North/South	90	110	125F	125E	150F	150E	New HSR	Maglev
Total benefits less total costs	\$3,228	\$4,247	\$93	\$191	\$1,383	\$1,889	\$3,670	\$3,422
Benefits to HSGT users less costs borne by users	\$2,153	\$3,055	\$3,374	\$3,745	\$3,913	\$4,396	\$7,688	\$10,324
Benefits to the public at large less publicly-borne costs	\$1,075	\$1,192	(\$3,280)	(\$3,554)	(\$2,530)	(\$2,507)	(\$4,018)	(\$6,902)
Ratio of total benefits to total costs	2.23	1.96	1.01	1.02	1.14	1.17	1.19	1.13
Ratio of benefits to HSGT users, to costs borne by users	2.36	2.38	2.28	2.29	2.28	2.28	2.24	2.13
Ratio of benefits to the public at large, to publicly-borne costs	2.04	1.54	0.54	0.56	0.63	0.69	0.70	0.61
Does this case meet the threshold tests for "partnership potential"?	YES	YES	YES	YES	YES	YES	YES	YES